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QUESTION 1- You Will Be Provided With A Video, Watch It And Use It To Describe The Heart And Its Function.

ANSWERS

The human heart is an organ that pumps blood throughout the body via the circulatory system, supplying oxygen and nutrients to the tissues and removing carbon dioxide and other wastes.

The human heart is a muscle and about the size of a fist. It lies behind and into the left of your breast bone or sternum, the purpose of the heart is to pump blood from the blood vessels arteries and veins to all parts of the body, The Human Heart is divided into four (4) chambers, the top two chambers are called the (atria), and are the collection chambers for blood. And the bottom two (2) are called the (ventricles) they receive the blood from the atria and pump it into the lungs and the body. The chambers are separated by Valves which controls the direction of blood flow. They are four (4) valves namely:

1. The Tricuspid valve
2. The Pulmonic valve
3. The mitral valve
4. The aortic valve

The Right Side of the Heart

Circulation begins at the right side of the heart where blood from the body comes to the right atria. This blood passes through the right ventricle where it is pumped to the blood to receive oxygen. Once it receives oxygen, it flows to the left atria and then to the left ventricle where it is pumped to the aorta and the rest of the body.

On the right side of the heart, the tricuspid valves separates the right atria and the right ventricle allows blood to enter the ventricle but flow backwards to the atria, blood flows to the pulmonic-valves to go the lungs.

An electric system transmit throughout the heart to control its pumping. The electric signals starts in the” Sino atrial” or (SA nodes) which is located in the upper portion of the right atria and is known as the natural pace maker of the heart. The electric signal passes down to the lower chambers of the heart by the (atrioventricular or AV nodes) which controls the signals so that the atria contracts before the ventricles. In the ventricle pathway carries the signals throughout the muscle so they contracts at some time to pump blood to the lungs and throughout the body.

The Left Side of the Heart

Left side of the heart has two chambers; the left atrium and left ventricle

The right and left atria are separated from one another by a fibrous septum called inter-atrial septum. On the left side of the heart, the mitral valve separates the left atria and the left ventricle, blood flows from the left ventricle to the aorta valve and the rest of the body. Arteries blood with oxygen and other nutrients throughout the body. Veins takes blood backs to the heart which pumps it to the lungs to be oxygenated, the heart arteries, coronary arteries provide oxygen and nutrients to the heart muscles. The right coronary arteries supply blood to the bottom and the back of the heart. The left coronary arteries splits into vessels, one branch supplies blood to the front of the heart and the other branch delivers blood to the left side of the heart.

The right and left atria are separated from one another by a fibrous septum called inter-atrial septum.

FUNCTIONS OF THE HEART

1. The heart is a about the size of a fist
2. The heart is the most important muscle in the body
3. We cannot leave without a heart because it is a muscular organ that pump blood throughout the circulatory system
4. The right tricuspid valve regulate blood flows between the right atria and right ventricles
5. The heart is really a pump (two pump in one), it receives blood from the body and pumps it to the lungs.
6. It takes about 20 seconds to pumps blood to every cell in the body.
7. The heart is located in the center of the chest, it lies behind and into the left of your breast bone or sternum.

QUESTION 2- Write On Five (5) Different Congenital Anomalies Of The Heart.

ANSWERS

A congenital heart defect (CHD), also known as a congenital heart anomaly and congenital heart disease, is a defect in the structure of the heart or great vessels that is present at birth. Signs and symptoms depend on the specific type of defect. Symptoms can vary from none to life-threatening. When present, symptoms may include rapid breathing, bluish skin (cyanosis), poor weight gain, and feeling tired. CHD does not cause chest pain. Most congenital heart defects are not associated with other diseases. A complication of CHD is heart failure. The normal structure of the heart (left) in comparison to two common locations for a ventricular septal defect (right) the most common form of congenital heart defect.

Symptoms---Rapid breathing, bluish skin, poor weight gain, and feeling tired

Complications--Heart failure

Types--Cyanotic heart defects, non-cyanotic heart defects

Causes--Often unknown

Risk factors--Rubella infection during pregnancy, alcohol or tobacco, parents being closely related, poor nutritional status or obesity in the mother

Congenital heart defects are partly preventable through rubella vaccination, the adding of iodine to salt, and the adding of folic acid to certain food products. Some defects do not need treatment. Others may be effectively treated with catheter based procedures or heart surgery. Occasionally a number of operations may be needed, or a heart transplant may be required. With appropriate treatment, outcomes are generally good, even with complex problems.

CLASSIFICATION

A number of classification systems exists for congenital heart defects.

1. Hypoplasia

Hypo-plastic left heart syndrome and Hypo plastic right heart syndrome

Hypoplasia can affect the heart, typically resulting in the underdevelopment of the right ventricle or the left ventricle. This causes only one side of the heart to be capable of pumping blood to the body and lungs effectively. Hypoplasia of the heart is rare but is the most serious form of CHD. It is called hypoplastic left heart syndrome when it affects the left side of the heart and hypoplastic right heart syndrome when it affects the right side of the heart. In both conditions, the presence of a patent ductus arteriosus (and, when hypoplasia affects the right side of the heart, a patent foramen ovale) is vital to the infant's ability to survive until emergency heart surgery can be performed, since without these pathways blood cannot circulate to the body (or lungs, depending on which side of the heart is defective). Hypoplasia of the heart is generally a cyanotic heart defect.

2. Obstructive defects

Ventricular outflow tract obstruction

Obstructive defects occur when heart valves, arteries, or veins are abnormally narrow or blocked. Common defects include pulmonic stenosis, aortic stenosis, and coarctation of the aorta, with other types such as bicuspid aortic valve stenosis and sub-aortic stenosis being comparatively rare. Any narrowing or blockage can cause heart enlargement or hypertension.

3. Septal defects

The septum is a wall of tissue which separates the left heart from the right heart. Defects in the interatrial septum or the interventricular septum allow blood to flow from the left side of the heart to the right, reducing the heart's efficiency. Ventricular septal defects are collectively the most common type of CHD, although approximately 30% of adults have a type of atrial septal defect called probe patent foramen ovale.

4. Cyanotic defects

Cyanotic heart defects are called such because they result in cyanosis, a bluish-grey discoloration of the skin due to a lack of oxygen in the body. Such defects include persistent truncus arteriosus, total anomalous pulmonary venous connection, tetralogy of Fallot, transposition of the great vessels, and tricuspid atresia.

5. Coarctation of the aorta (CoA)

A narrowing of the major artery (the aorta) that carries blood to the body. This narrowing affects blood flow where the arteries branch out to carry blood along separate vessels to the upper and lower parts of the body. CoA can cause high blood pressure or heart damage.